

ABSTRACT

Cracks in calcinating a catalyst are inhibited from being generated in a honeycomb structure. In a honeycomb structure 1, a plurality of honeycomb segments 2 having a plurality of cells 5 partitioned by porous partition walls and functioning as fluid channels and outer walls are bonded to one another by means of via a bonding material containing a ceramic as a main component. A three-point bending strength of a bonding layer 9 formed of the bonding material is set to 5 MPa or more, and a shearing strength of a bonded portion including the bonding layer 9 and the outer walls sandwiching this bonding layer therebetween is set to 1 MPa or more.